**DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

# WELDING INSPECTION REPORT

**Resident Engineer:** Siegenthaler, Peter
**Address:** 333 Burma Road
**City:** Oakland, CA 94607

**Report No:** WIR-023093
**Date Inspected:** 25-Apr-2011

**Project Name:** SAS Superstructure
**Prime Contractor:** American Bridge/Fluor Enterprises, a JV
**Contractor:** American Bridge/Fluor Enterprises, a JV

**OSM Arrival Time:** 700
**OSM Departure Time:** 1530
**Location:** Job Site

**CWI Name:** Fred Von Hoff

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|---|---|---|---|---|---|---|---|---|
| **Inspected CWI report:** | ☐ Yes | ☑ No | ☐ N/A | **CWI Present:** | ☑ Yes | ☐ No | |
| **Electrode to specification:** | ☑ Yes | ☐ No | ☐ N/A | **Rod Oven in Use:** | ☑ Yes | ☐ No | ☐ N/A |
| **Qualified Welders:** | ☑ Yes | ☐ No | ☐ N/A | **Weld Procedures Followed:** | ☑ Yes | ☐ No | ☐ N/A |
| **Approved Drawings:** | ☑ Yes | ☐ No | ☐ N/A | **Verified Joint Fit-up:** | ☐ Yes | ☑ No | ☐ N/A |
| | | | | **Approved WPS:** | ☑ Yes | ☐ No | ☐ N/A |
| | | | | **Delayed / Cancelled:** | ☐ Yes | ☑ No | ☐ N/A |

**Bridge No:** 34-0006
**Component:** Orthotropic Box Girder

**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 10E/11E side plate ‘C1’ (2640mm to 5278mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continuing to perform CJP groove (splice) welding fill pass to cover pass on the splice butt joint. The welder was observed perform automatic welding in the 3G (vertical) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16” diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3042B-1. The joint being welded has a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blankets located at the opposite side of the plate prior/during welding. During welding, ABF Quality Control (QC) Fred Von Hoff was noted monitoring the welding parameters of the welder. At the end of the shift, cover pass welding was completed and the welder has moved to ‘C2 (2640mm to 4577mm) inside of the same OBG plate.

At OBG 10E/11E side plate ‘C1’ (0mm to 1000mm) inside, QA randomly observed ABF/JV qualified welder Fred Kaddu continuing to perform cover pass welding on the Complete Joint Penetration (CJP) splice butt joint where the track mounted Bug-o FCAW welder nozzle holder has limited access. The welder was observed manually welding in the 3G (vertical) position utilizing a Shielded Metal Arc Welding (SMAW) with 1/8” diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040B. The joint being welded has a single V-groove butt joint with steel backing bar. During

welding, ABF Quality Control (QC) Fred Von Hoff was noted monitoring the welding parameters of the welder. During the shift, cover pass SMAW welding at location mentioned above was completed.

At OBG 7E-PP56-E3-#2 & 4 lifting lug access hole to top deck plate inside – ABF welder Jason Collins was observed 4G SMAW back welding fill pass to cover pass on the infill plate to top deck plate butt joints. The welder was noted using 1/8" diameter E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1110A. Prior welding, ABF QC Fred Von Hoff was observed performing Magnetic Particle Testing (MT) on the back gouging and grinding of the butt joints. During welding, ABF QC Fred Von Hoff was noted monitoring the welder's welding parameters. At the end of the shift, cover pass welding on the bottom side location of the two butt joints was completed and the welder has moved to #1 & 3 access holes of the same OBG and performed back gouging using carbon air arc.

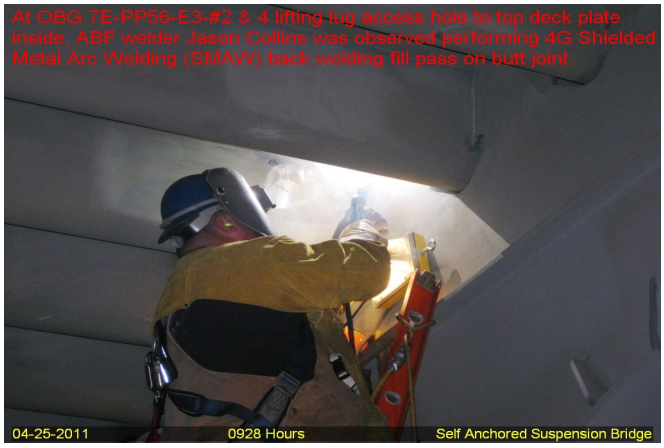
At OBG 9E/10E 'A' to 'B' (top corner transition) and 'B' to 'C' (bottom corner transition) inside, ABF welder Jorge Lopez was noted fixing the two transition corners by grinding and touch up welding where undercut was noted. The welder was noted using 1/8" diameter E7018H4R electrode. During welding, ABF QC Fred Von Hoff was noted monitoring the welder's welding parameters. At the end of the shift, touch up welding and smooth grinding on both transitions was completed. The welder has moved to the other side of the OBG 9E/10E 'A' to 'F' (top corner transition) and 'F' to 'E' (bottom corner transition) inside where the welder carried out the same as he previously did. All four corner transitions were all completed at the end of the shift and were visually checked and verified by QC and QA respectively.

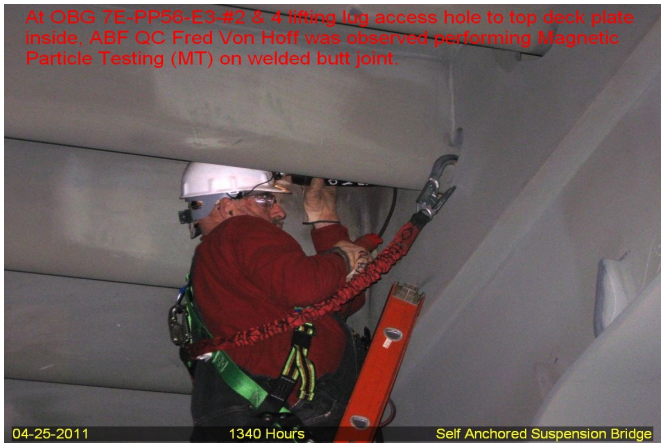
At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT of the Complete Joint Penetration (CJP) welding of two (2) lifting lug access hole to top deck plate and four corner transition joints. The QA verification was performed to verify that the welding and the VT inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the weld and the QC inspection complied with the contract documents.

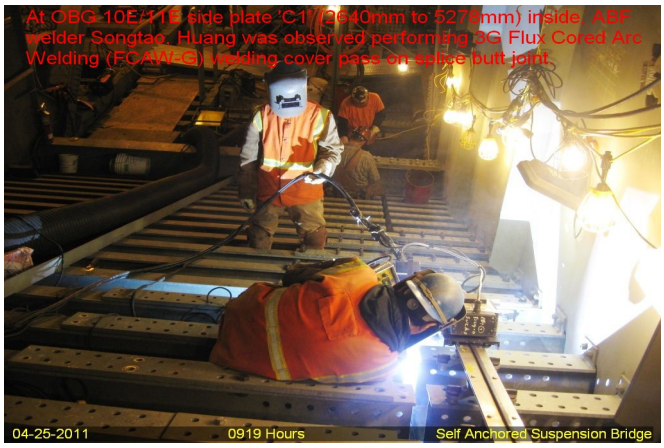
1. OBG 7E-PP56-E3-#2 & 4 lifting lug access holes inside - QA VT verified
2. OBG 9E/10E top plate 'A' to edge plate 'B' top corner transition inside - QA VT verified
3. OBG 9E/10E edge plate 'B' to side plate 'C' bottom corner transition inside - QA VT verified
4. OBG 9E/10E top plate 'A' to edge plate 'F' top corner transition inside - QA VT verified
5. OBG 9E/10E edge plate 'F' to side plate 'C' bottom corner transition inside - QA VT verified

# WELDING INSPECTION REPORT

*( Continued Page 3 of 3 )*





**Summary of Conversations:**

Today was rainy at the job site. Due to this weather condition, all the welders were confined inside the OBG welding and performing various associated tasks.

**Comments**

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

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|---|---|---|
| **Inspected By:** | Lizardo,Joselito | Quality Assurance Inspector |
| **Reviewed By:** | Levell,Bill | QA Reviewer |